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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,970	09/18/2003	Mani Soma	4735.P005	8349

7590

01/04/2005

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EXAMINER

BUI, BRYAN

ART UNIT

PAPER NUMBER

2863

DATE MAILED: 01/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/665,970

Applicant(s)

SOMA ET AL.

Examiner

Bryan Bui

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-22 and 33-38 is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-12 and 23-32 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-4, 7-12, 23-32 are rejected under 35 U.S.C. 102(b) as being anticipated by D.E. Newland (Journal of vibration and acoustic, "wavelet analysis of vibration, part 1, Theory").

With respect to claim 1, D.E. Newland teaches a technique for applying a wavelet to a radio frequency signal under test(sample) to extract (decompose) parameter from the RF signal ( $f(x)$ ) using a wavelet transform ( $w(x)$ ) of the RF signal (pages 409, 414).

With respect to claims 2-4, D.E. Newland teach in figures 4-5, page 411, (indication  $x$  in the graph known as position **or time** represent in horizontal axis, see The **Haar family of wavelets** in page 410), the extracting at least one timing parameter from RF signal, extracting a clock period of the RF signal, extracting jitter rate (elapsed time, pulsed time).

With respect to claims 7-12, D.E. Newland teach in figures 4, 6, and page 412, extracting at least one frequency parameter from the RF signal, extracting a frequency increase, extracting at least one phase parameter from the RF signal, extracting a phase discontinuity from the RF signal, applying a discrete Haar wavelet to a radio

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frequency signal, applying a discrete Morlet wavelet to a radio frequency signal (specific in page 412).

With respect to claims 23, 29, the rejection for a system/machinery would encompass by the method rejection as set forth above, since the radio frequency could be emitted from many machinery vibration monitoring or sound as indicated in page 409, and providing a wavelet tool in the technique to extract parameters by wavelet transform (page 414).

With respect to claims 24-28, 30-32, D.E. Newland teach in figures 4, 6, and page 412, extracting at least one frequency parameter from the RF signal, extracting a frequency increase, extracting at least one phase parameter from the RF signal, extracting a phase discontinuity from the RF signal, applying a discrete Haar wavelet to a radio frequency signal, applying a discrete Morlet wavelet to a radio frequency signal (specific in page 412).

### ***Allowable Subject Matter***

2. Claims 5-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 13-22, and 33-38 are indicate allowable over the prior art of record, since none of the prior art discloses the claimed combination as recited.

***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan Bui whose telephone number is 571-272-2271. The examiner can normally be reached on M-Th from 7am-4pm, and Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BB

12/27/2004

**BRYAN BUI  
PRIMARY EXAMINER**

